

Morphological variation and geographical distribution of Musa sp. cv. Rastali in Peninsular Malaysia.

ABSTRACT

This paper focuses on the morphological variation and geographical distribution of 29 accessions of Musa sp. cv. Rastali collected from Peninsular Malaysia. The Principal Component Analysis (PCA) was carried out to identify the descriptor, i.e. the most important for characterization and classification of 29 accessions of Rastali. Cluster analysis was conducted to explain the relationship among and within groups in the dendrogram, while mapping was carried out using the MapInfo Professional software 10.0. Seven groups were derived from the dendrogram and from the similarity indices, two accessions shared the value of 0 indicating that they have distinct differences in their reproductive morphology although there are of the same cultivars. These differences indicate that the variation exists among the accessions. Six accessions share the same value of 1 indicating that they are possible duplicates. Two male reproductive morphological characteristics, the male neuter flower along the rachis and male bud shape were responsible to separate three accessions from the main group while bunch compartment and bunch orientation further separate the three accessions. The cluster analysis showed that the geographical location, which was either too close or too far, was unrelated to the variation levels among the accessions.

Keyword: Bunch compartment; Bunch orientation; Cluster analysis; Male bud shape; Male neuter flower; PCA